

ABSTRACT

The present invention relates to methods and compositions for inhibiting pancreatic β cell dysfunction and Fas-mediated apoptosis. The invention relates to recombinant vectors, including viral vectors, comprising nucleic acids molecules encoding inhibitors of interleukin-1 β (IL-1 β) and Fas-mediated apoptosis and the use of such vectors for transfer of said nucleic acid molecules into β cells. The invention encompasses genetically engineered β cells comprising nucleic acid molecules encoding inhibitors of IL-1 β signal transduction. The invention further relates to methods for transplanting such genetically engineered β cells into a host recipient with a pancreatic disorder. The methods and compositions of the invention may be used to reduce IL-1 β mediated β cell dysfunction and apoptosis, thereby reducing the insulinitis associated with pancreatic disorders such as insulin dependent diabetes mellitus (IDDM).